Cotton/Soybean Insect Newsletter

Volume 16, Issue #13 Edisto Research & Education Center in Blackville, SC 23 July 2021

Pest Patrol Alerts

The information contained herein each issue is available via text alerts that direct users to online recordings. I will update the short message often for at least as long as the newsletter runs. After a new message is posted, a text message is sent to alert users that I have recorded a new update. Users can subscribe for text message alerts for my updates in two easy steps. Step one: register by texting **pestpat7** to 97063. Step two: reply to the confirmation text you receive by texting the letter "y" to complete your registration. Pest Patrol Alerts are sponsored by Syngenta.

Updates on Twitter

When noteworthy events happen the in the field, I will be sending them out quickly via Twitter. If you want to follow those quick updates, follow me at **@bugdocisin** on Twitter.

News from Around the State

Jonathan Croft, county agent in Orangeburg County, reported that he "looked at some cotton in Orangeburg County today (7-22) and came across enough stink bug-damaged bolls to warrant treatment. The field with the highest level of boll damage is right next to corn that is drying down. I intentionally made sure not to sample close to corn and still had above threshold boll damage. Aphids appear to be crashing out. It is still pretty quiet in the soybeans I looked at this week. Just saw a few random kudzu bugs and immature grasshoppers."

Scouting Workshops and Field Days

Plans are set for our 2021 in-field, in-person workshops devoted to scouting for insect issues in cotton and soybeans. Dates and locations for these three scouting workshops NEXT WEEK are below. You must preregister to attend. Links for preregistration are below and on the attached announcements. Attendance will be limited to the first 50 participants that preregister for each session/workshop. For more details, see attached announcements.

- 28 July in Manning, SC, at the county office (21 West Rigby Street, Manning, SC 29102).
  Morning Session – Cotton/Soybean Scouting Workshop
  HTTP://www.eventbrite.com/e/soybeancotton-crop-scouting-workshop-tickets-163574857803

- 29 July in Cameron, SC, at the Cameron Community Club (5376 Cameron Road, Cameron, SC 29030).
  Morning Session – Cotton/Soybean Scouting Workshop
  https://www.eventbrite.com/e/crop-scouting-workshop-tickets-162591913791
  Afternoon Session – Peanut
  https://www.eventbrite.com/e/crop-scouting-workshop-afternoon-session-peanut-tickets-162670544979

- 30 July in Blackville, SC, at the Edisto REC (64 Research Road, Blackville, SC 29817).
  Announcement sent out soon for preregistration.
  Morning Session – Cotton/Soybean Scouting Workshop
  https://www.eventbrite.com/e/crop-scouting-workshop-cotton-soybean-tickets-163050956801

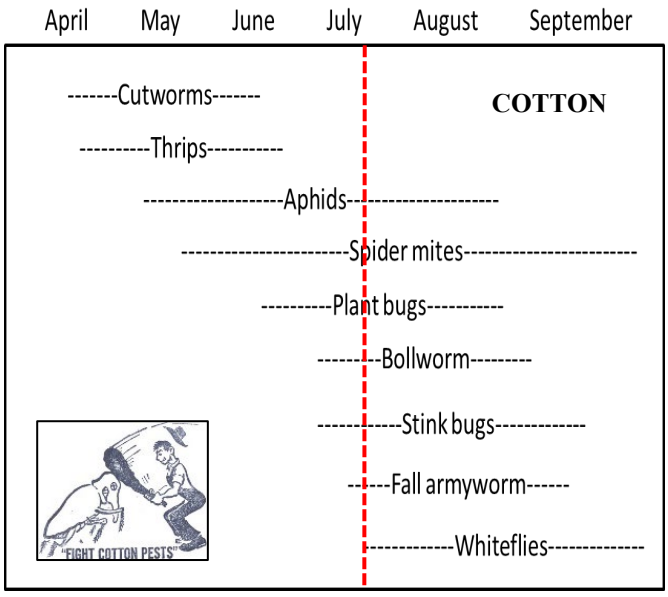
We will also have an in-person field day here at the Edisto REC on 2 September 2021, with at least row crops (cotton, soybeans, peanuts, corn, grain sorghum, etc.) covered. Stay tuned for details.

Cotton Situation

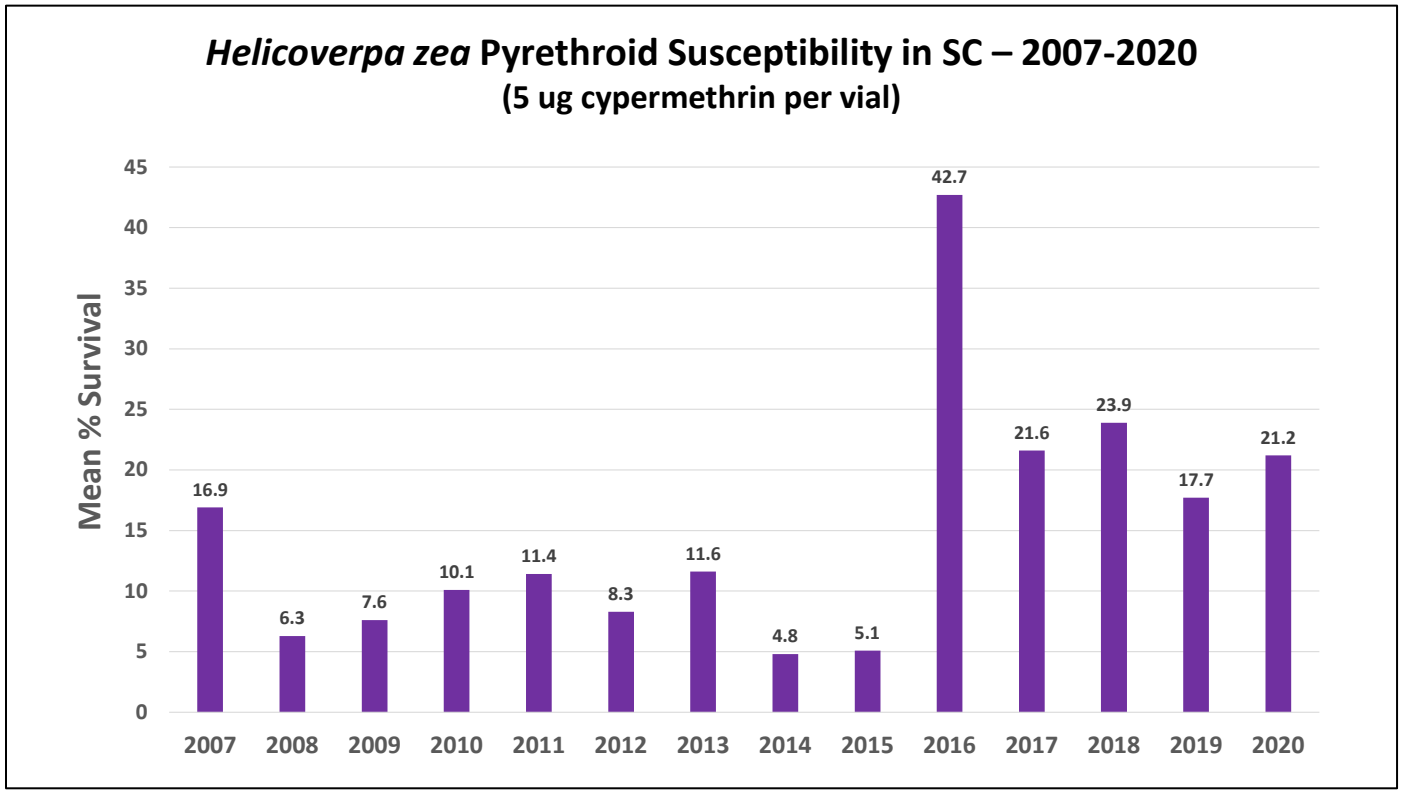
As of 18 July 2021, the USDA NASS South Carolina Statistical Office estimated that about 75% of the crop is squaring, compared with 63% last week, 67% at this time last year, and 73% for the 5-year average. About 36% of the crop is setting bolls, compared with 20% last week, 13% at this time last year, and 30% for the 5-year average. The conditions of the crop were 6% excellent, 72% good, 22% fair, 0% poor, and 0% very poor. These are observed/perceived state-wide averages.

Cotton Insects

Captures of **bollworm** moths in my pheromone traps increased dramatically this week and look to be trending up for next week. So, the bollworm flight out of corn is 'on' for 2021. I saw more moths flying around in the field this week, we found a few more eggs, and saw a few early bollworms in white blooms. Use our treatment thresholds of 3 or more large (>0.25 inch) larvae per 100 plants or 5% damage to squares or bolls. On 2-gene Bt cotton, you can also trigger when egg density pushes past 20 towards 50 eggs per 100 plants. Use 50+ eggs per 100 plants for 3-gene Bt cotton. More detailed recommendations for bollworm can be found in our 2021 Pest Management Handbook. The

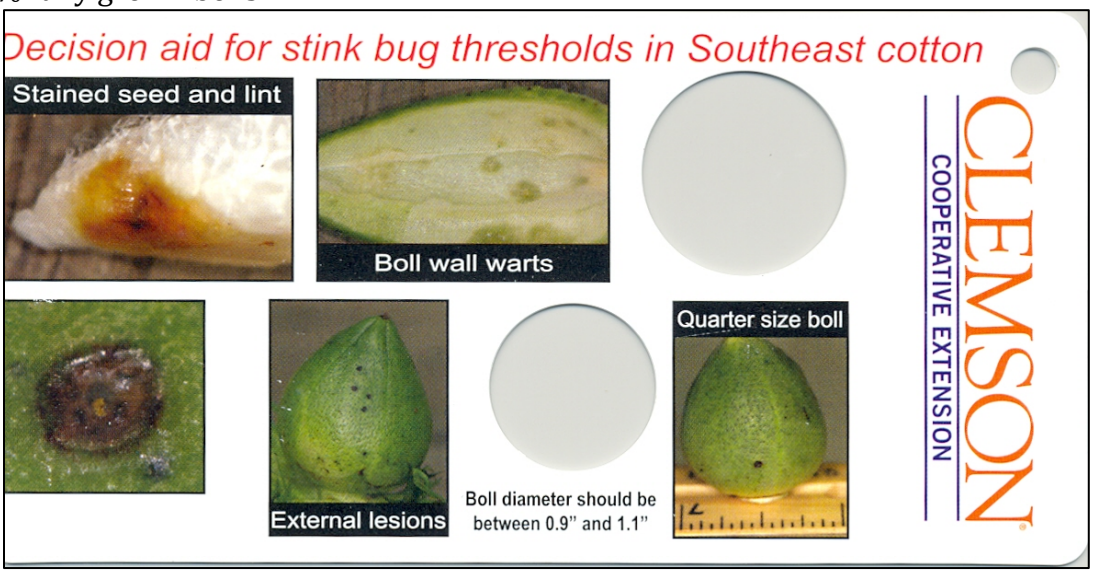


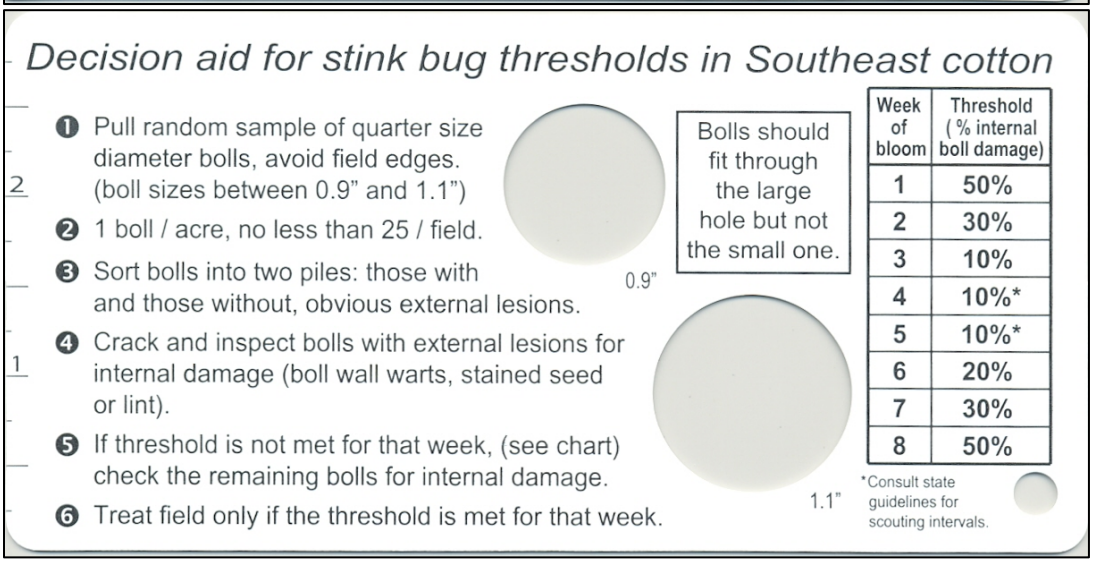
pyrethroid insecticides do not give us the excellent control of bollworm they used to provide. The chart below shows the relative survival of bollworm in a bioassay designed to susceptibility to pyrethroids. Since 2016, elevated survival of bollworm in this assay has indicated that a pyrethroid insecticide might not provide the control it once did. In 2-gene Bt cotton, you will want to consider a non-pyrethroid, if bollworm is determined to be over threshold. There are multiple options listed in the Pest Management Handbook.



Once we move into the 3rd, 4th, and 5th weeks of bloom, you will need to have a pyrethroid in the tank for good residual control of **stink bugs**, if stink bugs are determined to be above threshold. We repeated an experiment evaluating residual control of stink bugs with *lambda*-cyhalothrin (Warrior II or Karate) and dicrotophos (Bidrin), and I will share those data with you next week, hopefully. The cage work was challenging, but my crew managed to find enough stink bugs for the trial.

There are pre-mixed products that will control both bollworm and stink bugs, or you can prepare your own tank-mix. You will need to know what week of bloom you are in to properly gauge stink bug thresholds. Do you know the first week of bloom for all of your cotton fields? We define that as when every other plant has its initial flower. That is generally around 60-70 days after planting, depending on planting date, variety, temperature, accumulation of heat units, etc. Be sure to note the first week of bloom, so you know where (or when) you are for each field. Use the dynamic boll-injury threshold to determine if you need to treat for stink bugs or not. Examining the same size bolls each week is a great monitoring tool for injury. I like to pull the largest but softest bolls you can find that will easily mash between your thumb and index finger to open. I pull off the bracts and stem and pop open the "fat end" of the boll first. These bolls are about 50-75% fully grown bolls.



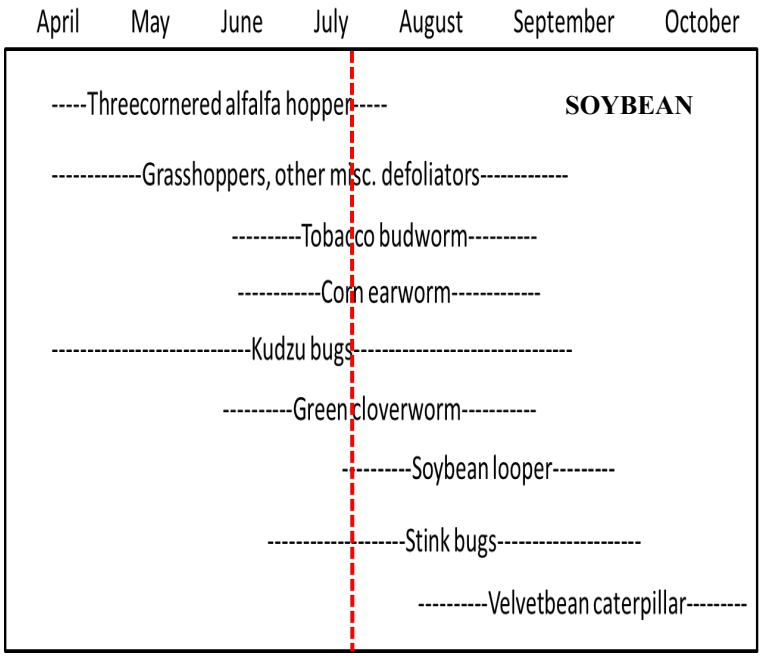


Aphids have crashed in most locations due to the fungus. It is amazing how quickly we can go from a sticky mess with aphids to clean cotton with seemingly no signs of an aphid outbreak. Aphids provided our natural enemies with food, allowing them to build and be a force for the bollworm pressure we are about to face. **Spider mites** have been held back by the rain, I'm sure, and as long as it continues to rain regularly, we should stay in good shape regarding spider mites. **Plant bugs** are still in the important window (a couple of weeks before and after first bloom) to monitor for plant bugs AND square retention. Cotton fields near grain crops (corn, etc.) are likely more at risk for issues with tarnished plant bug, so scout areas near (within 100 meters or so) those crop interfaces initially. Keep plant bugs below 8 per 100 sweeps (or roughly 1 per 10 sweeps to keep the math simple) for pre-bloom sampling or 3 per 5-6 rowft using a black drop cloth post-bloom. If numbers exceed either of these thresholds AND square retention drops below 75%, you probably need to treat for plant bugs.

Plant bugs, bollworm, and stink bugs, should be the primary insect pests of concern right now.

Soybean Situation

As of 18 July 2021, the USDA NASS South Carolina Statistical Office estimated that about 27% of the crop has bloomed, compared with 18% the previous week, 18% at this time last year, and 21% for the 5-year average. About 2% of the crop is setting pods, compared with NA% the previous week, NA% at this time last year, and NA% for the 5-year average. The conditions of the crop were 10% excellent, 82% good, 8% fair, 0% poor, and 0% very poor. These are observed/perceived state-wide averages.

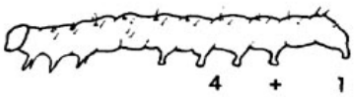


Soybean Insects

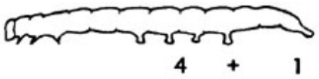
We remain mostly quiet in soybeans regarding insects. This is good news again this week. My crew and I looked at some blooming but short soybeans today and found little to nothing as far as insects. We found a single podworm (same species as corn earworm and bollworm), some stink bugs, a few kudzu bugs, and some grasshoppers. I did see some podworm moths and one velvetbean caterpillar moth. With activity greatly increased in my pheromone traps here at Edisto REC, I expect that podworm pressure on soybeans will increase in the next week or two, and any soybeans flowering and setting pods will be at risk. Go scout your soybeans, particularly if they are flowering. Walk through and notice the moths you flush. You need to be able to identify the moths in order to know what is coming!

As moth activity increases, deposited eggs will yield caterpillar pests on soybeans. It is good skill to be able to identify adult moths flying around in fields. Use this chart to study moth and caterpillar identification.

FIELD KEY TO COMMON SOYBEAN CATERPILLARS

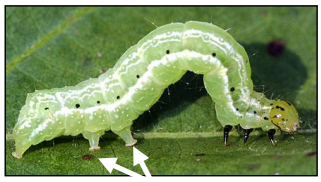


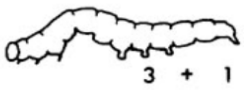
CORN EARWORM
4 + 1 pair prolegs
Curls up in hand
Black "warts" on body



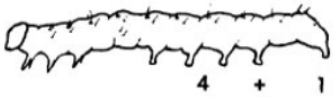
VELVETBEAN CATERPILLAR
4 + 1 pair prolegs
Very active when handled

SOYBEAN LOOPER
2 + 1 pair prolegs
Fatter at tail end
Looping movement

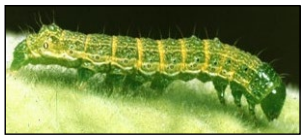




GREEN CLOVERWORM
3 + 1 pair prolegs
Not fatter at tail end
Looping movement



TOBACCO BUDWORM
4 + 1 pair prolegs
Curls up in hand
Black "warts" on body



(2017) Prepared by Jeremy Greene, Professor of Entomology

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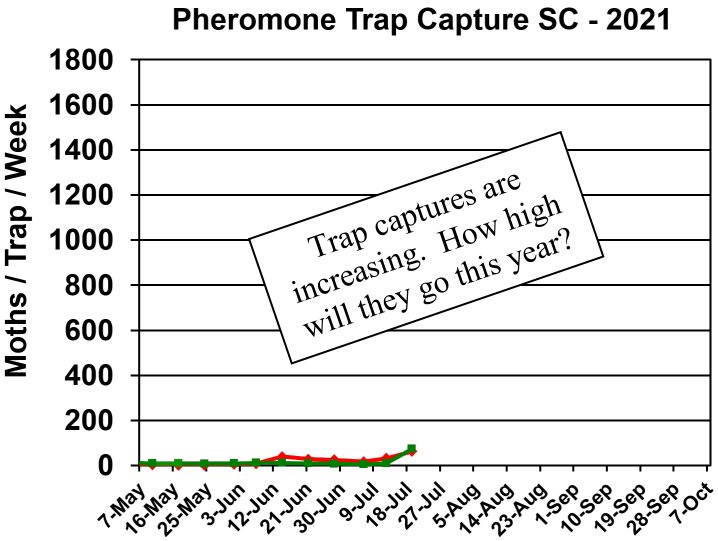
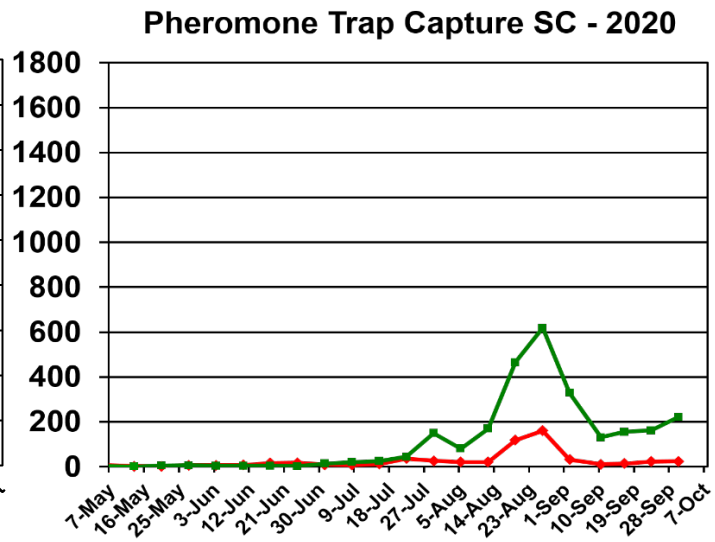
Public Service Activities

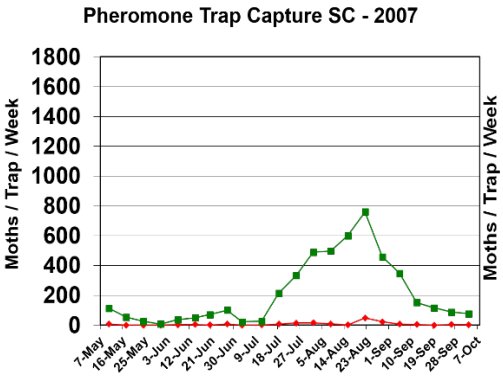
Bollworm & Tobacco Budworm

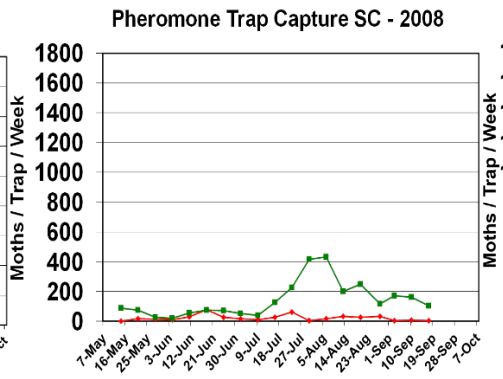
Captures of bollworm (BW) and tobacco budworm (TBW) moths in pheromone traps at EREC this season are shown below, as are the captures from 2007-2020 for reference. Tobacco budworm continues to be important for our soybean acres and for any acres of non-Bt cotton. I provide these data as a measure of moth presence and activity in our local area near my research plots. The numbers are not necessarily representative of the species throughout the state.

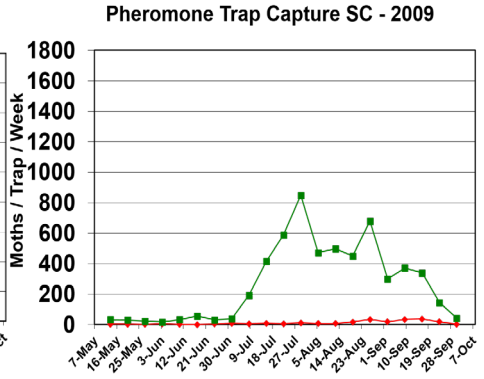




Trap data from 2007-2019 are shown below for reference to other years of trapping data from EREC:







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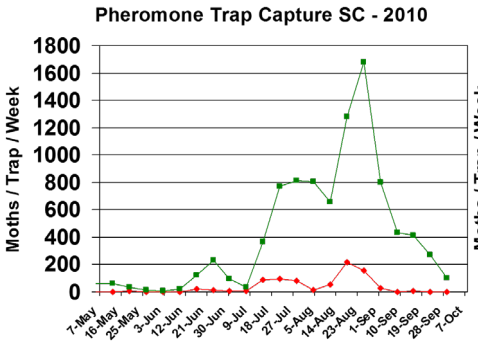

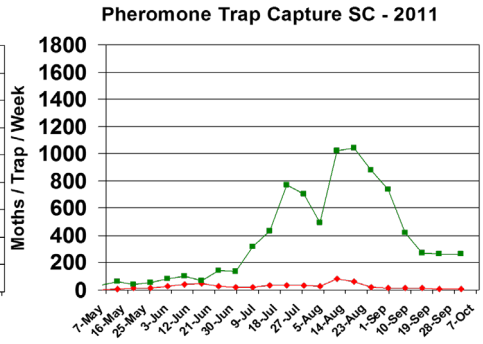

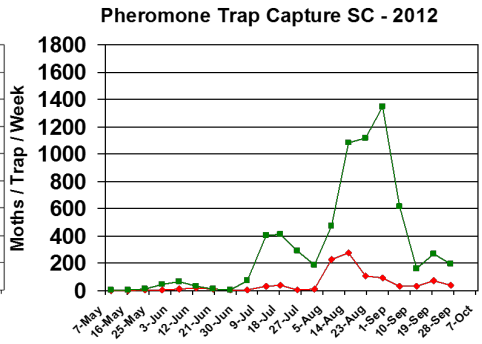

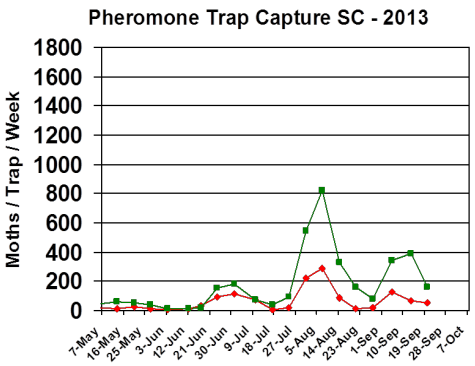

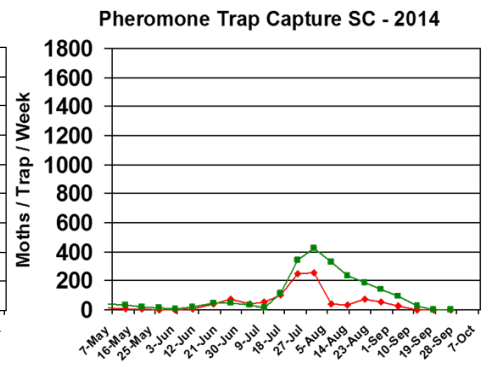

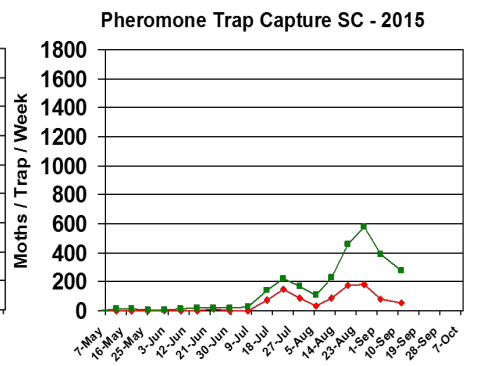

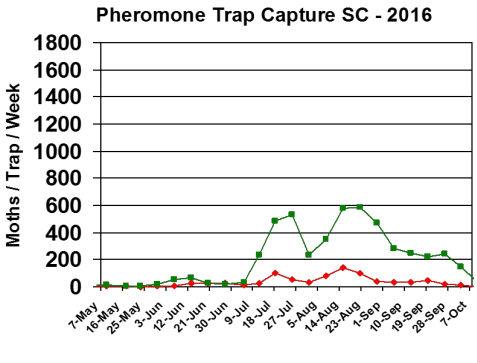

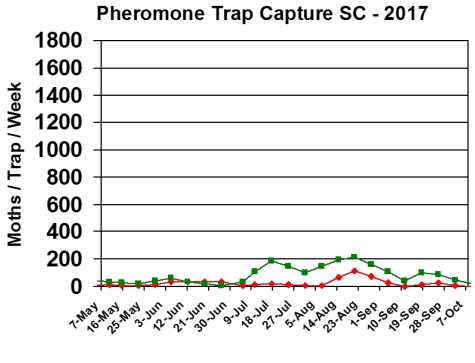

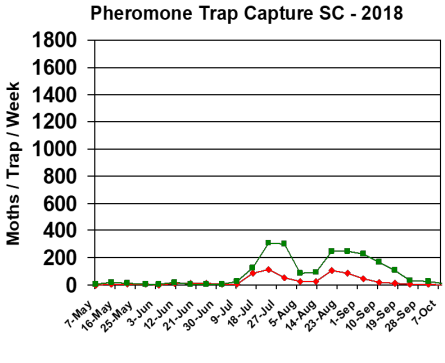

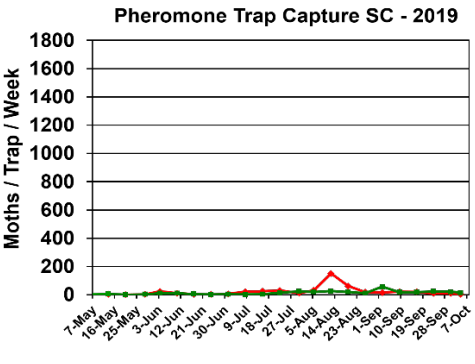

Pest Management Handbook – 2021

Insect control recommendations are available online in the 2021 South Carolina Pest Management Handbook at:
https://www.clemson.edu/extension/agronomy/pest%20management%20handbook.html

South Carolina Crops Blog

The SC Crops Blog contains content about production of major row crops at the following link, if you want more information: https://blogs.clemson.edu/sccrops/
Archived issues of the Cotton/Soybean Insect Newsletter can be viewed at a convenient link on the SCCrops page. Contact **Dr. Michael Plumblee**, if you have any questions about the blog.

Free Mobile Apps: "Calibrate My Sprayer" and "Mix My Sprayer"

Download our free mobile apps called "Calibrate My Sprayer" and "Mix My Sprayer" that help check for proper calibration of spraying equipment and help you with mixing user-defined pesticides, respectively, in custom units (available in both iOS and Android formats):
http://www.clemson.edu/extension/mobile-apps/

Need More Information?

For more Clemson University Extension information: http://www.clemson.edu/extension/

For historical cotton/soybean insect newsletters:
https://www.clemson.edu/extension/agronomy/cotton1/newsletters.html

Sincerely,

Jeremy K. Greene, Ph.D.
Professor of Entomology

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